

REMARKS

The Office Action dated August 06, 2008, has been received and reviewed.

Claims 1-14 and 25-39 are currently pending and under consideration in the above-referenced application. Each of claims 1-14 and 25-39 stands rejected. Claims 1, 2, 25, 26, 29, 31, and 35 have been amended herein. Reconsideration of the above-referenced application is respectfully requested.

Rejections under 35 U.S.C. § 102

Claims 1-7, 11-14, 25 and 29-34 stand rejected under 35 U.S.C. § 102(e).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single reference which qualifies as prior art under 35 U.S.C. § 102. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The single reference must not only disclose each and every element as set forth in the claim, but must also disclose the elements as arranged in the claim. *Net MoneyIn, Inc. v. Verisign, Inc.*, 2008 WL 4614511 at *8 (Fed. Cir. 2008).

Tandy

Claims 1-7, 11-14, and 29-34 stand rejected under 35 U.S.C. § 102(e) for reciting subject matter which is purportedly anticipated by that described in U.S. Patent Publication 2003/0003688 to Tandy et al. (hereinafter “Tandy”). Applicants respectfully traverse the rejection.

Tandy discloses a method of marking a surface of a bare semi-conductor die. Paragraph [0002]. In particular, Tandy discloses reducing a cross-section of a semiconductor device and applying a tape having optical energy-markable properties over a surface or edge of a wafer or semiconductor die, and exposing the tape to an optical energy source to create an identifiable mark. Paragraph [0032]. Tandy also discloses that the marking tape and its adhesive layer may provide support for the semiconductor wafer during transportation and dicing. Paragraph [0042].

Claim 1, as amended herein, is directed to a method for supporting wafers for singulation and pick-and-place. The method of claim 1 includes “gripping the semiconductor wafer along at least a portion of a continuous peripheral ring of material comprising at least in part semiconductor material.”

It is respectfully asserted that Tandy lacks any description of *gripping* the semiconductor wafer along at least a portion of a continuous peripheral ring of material *comprising at least in part semiconductor material*. In support of the anticipation rejection, the Examiner states, on page 3 of the August 6, 2008 Office Action, that “Tandy teaches...gripping the semiconductor wafer along at least a portion of the periphery thereof (figure 4A; [0034]), **Note:** the Examiner takes the position that, the marking tape, as taught by Tandy, is bonded to the backside of the semiconductor wafer by an adhesive material, thus, gripping the semiconductor wafer including the periphery at the outer edge portions of the wafer is anticipated).” Applicants respectfully disagree. Although Tandy describes that a carrier tape 4 and/or a marking tape 1 may provide stability and support during dicing of wafer 10, it appears to the Applicants that Tandy lacks any description of *gripping* the semiconductor wafer along at least a portion of *the periphery thereof*. Assuming, for argument sake only, that Tandy inherently describes gripping marking tape 1 or dicing tape 4 along a portion of a periphery thereof, Tandy still lacks any description of *gripping* the semiconductor wafer along at least a portion of a continuous peripheral ring of material *comprising at least in part semiconductor material*. Applicants assert that Tandy lacks any description that carrier tape 4 and/or a marking tape 1 comprise, at least in part, semiconductor material.

Accordingly, Tandy does not anticipate independent claim 1 and withdrawal of the 35 U.S.C. § 102(e) rejection of claim 1 is respectfully solicited.

Each of claims 2-7 and 11-14 is allowable, among other reasons, for depending, either directly or indirectly, from claim 1 which is allowable.

Independent claim 29 is allowable for substantially the same reasons as discussed above with respect to claim 1. Tandy fails to expressly or inherently describe “gripping a semiconductor wafer along at least a portion of a continuous peripheral ring of material comprising at least in part semiconductor material.” Since Tandy does not expressly or inherently describe each and every claim element, Applicants respectfully request that the anticipation rejection to independent claim 29 be withdrawn.

Claims 30-34 are each allowable, among other reasons, as depending, either directly or indirectly, from an allowable base claim.

Kurosawa

Claim 25 stands rejected under 35 U.S.C. § 102(e) for reciting subject matter which is purportedly anticipated by that described in U.S. Patent 7,140,951 to Kurosawa (hereinafter “Kurosawa”). Applicants respectfully traverse the rejection.

Kurosawa discloses an apparatus for manufacturing a semiconductor device. Kurosawa at the Abstract. A first holding member is affixed to a rear surface of a semiconductor wafer which is opposite an element forming surface. *Id.* A cutting mechanism then cuts and discretely divides the semiconductor wafer. *Id.* A second holding member is affixed to the element forming surface side of the semiconductor while the first holding member is expanded to widen gaps of semiconductor elements. *Id.*

Claim 25, as amended herein, recites, in part, “singulating individual components from the semiconductor wafer, leaving an uncut ring of material comprising at least in part semiconductor material along a periphery of the semiconductor wafer.” Kurosawa does not expressly or inherently describe leaving an *uncut ring of material comprising at least in part semiconductor material* along a periphery of the semiconductor wafer. Instead, Kurosawa discloses cutting and dividing an entire wafer 11 (*see e.g.*, FIGS. 1-4, 6, 12A, 13, 20A, 21A, and 29). Moreover, Kurosawa lacks any description that tape 12/22, wafer ring 13/23, or tape 15 comprises, at least in part, semiconductor material. For these reasons, withdrawal of the 35 U.S.C. § 102(e) rejection of claim 25 is respectfully solicited.

Rejections under 35 U.S.C. § 103(a)

Claims 8-10, 26-28, and 35-39 stand rejected under 35 U.S.C. § 103(a).

To establish a *prima facie* case of obviousness the prior art reference (or references when combined) **must teach or suggest all the claim limitations**. *In re Royka*, 490 F.2d 981, 985 (CCPA 1974); *see also* MPEP § 2143.03. Additionally, the Examiner must determine whether there is “an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740-1741, 167 L.Ed.2d 705, 75 USLW 4289, 82 U.S.P.Q.2d 1385 (2007). Further, rejections on obviousness grounds “cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id* at 1741, quoting *In re Kahn*, 441, F.3d 977, 988 (Fed. Cir. 2006). Finally, to establish a *prima facie* case of obviousness there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). Furthermore, the reason that would have prompted the combination and the reasonable expectation of success must be found in the prior art, common knowledge, or the nature of the problem itself, and not based on the Applicant’s disclosure. *DyStar Textilfarben GmbH & Co. Deutschland KG v. C. H. Patrick Co.*, 464 F.3d 1356, 1367 (Fed. Cir. 2006); MPEP § 2144. Underlying the obvious determination is the fact that statutorily prohibited hindsight cannot be used. *KSR*, 127 S.Ct. at 1742; *DyStar*, 464 F.3d at 1367.

Tandy in View of Kurosawa

Claims 8-10 stand rejected under 35 U.S.C. § 103(a) for reciting subject matter which is assertedly unpatentable over that taught in Tandy as applied to claim 1 above, and further in view of Kurosawa. Applicants respectfully traverse the rejection.

Claims 8-10 are each allowable, among other reasons, for depending from claim 1, which is allowable.

Claim 8 is additionally allowable because the combination of Tandy and Kurosawa does not teach or suggest “mounting the adhesive-coated tape to an active surface of the semiconductor wafer and singulating the semiconductor wafer from a backside thereof after backgrinding.” As acknowledged by the Examiner, Tandy fails to teach or suggest this

limitation. Office Action of August 06, 2008, p. 7. Kurosawa also fails to teach or suggest “singulating the semiconductor wafer from a backside thereof *after backgrinding*.” Instead, Kurosawa teaches that the wafer is singulated and subsequently backgrinding is performed. Col. 9, lines 45-66 to Col. 10, lines 1-37.

Kurosawa in View of Oka

Claims 26-28 stand rejected under 35 U.S.C. § 103(a) for reciting subject matter which is assertedly unpatentable over that taught in Kurosawa as applied to claim 25 above, and further in view of U.S. Patent 6,551,906 to Oka (hereinafter “Oka”). Applicants respectfully traverse the rejection.

Claims 26-28 are each allowable, among other reasons, for depending from claim 25, which is allowable.

Claim 26 is additionally allowable because Kurosawa and Oka, either alone or in combination, do not teach or suggest all of the claim limitations. Claim 26, as amended, is directed to a method for processing a semiconductor wafer. Claim 26, as amended, includes the step of selecting a 300 mm semiconductor wafer. Kurosawa does not teach or suggest a 300 mm wafer, therefore, it necessarily does not teach or suggest the step of selecting a 300 mm wafer. In addition, Oka also does not teach or suggest the steps of “selecting a 300 mm wafer, and handling the 300mm semiconductor wafer using equipment sized to handle 200 mm semiconductor wafers” as recited in amended claim 26. Although Oka teaches that 300 mm wafers are known, it does not teach or suggest the method limitations of selecting and handling such a wafer with equipment adapted to handling 200 mm wafers. Without the benefit of improper hindsight, there is nothing in the references, common knowledge, or nature of the problem itself that would have led a person of ordinary skill in the art to believe that 300 mm wafers could be used in equipment sized to handle 200 mm wafers.

Tandy in View of Oka

Claims 35-39 stand rejected under 35 U.S.C. § 103(a) for reciting subject matter which is assertedly unpatentable over that taught in Tandy as applied to claim 29 above, and further in view of Oka. Applicants respectfully traverse the rejection.

Claims 35-37 are each allowable, among other reasons, for depending from claim 29, which is allowable.

Claim 35 is additionally allowable for substantially the same reasons as discussed above with respect to claim 26. Tandy does not teach or suggest a 300 mm wafer, therefore, it necessarily does not teach or suggest the step of selecting a 300 mm wafer. Furthermore, Oka does not supply the missing limitations. Neither Tandy nor Oka, separately or in combination, teaches or suggests the claimed limitations of “*selecting a 300 mm semiconductor wafer and handling the 300 mm semiconductor wafer using equipment sized to handle 200 mm semiconductor wafers.*”

Regarding claim 38, applicants respectfully submit that Tandy and Oka do not, alone or in combination, teach or suggest all of the claim limitations. Claim 38 includes the limitation “*handling the 300 mm semiconductor wafer with equipment sized to handle 200 mm semiconductor wafers.*” On page 10 of the Office Action, dated August 6, 2008, the Examiner states “*Tandy fails to show, pertaining to claim 38, a method of using 300 mm semiconductor wafer, including handling the 300 mm semiconductor wafer with equipment sized to handle 200 mm semiconductor wafer. Applicants agree. Furthermore, although Oka teaches that the size of wafers have gradually increased from 200 mm to 300 mm, it appears to the Applicants that Oka lacks any teaching or suggestion of handling the 300 mm semiconductor wafer with equipment sized to handle 200 mm semiconductor wafers.*

Accordingly, neither Tandy nor Oka, either alone or in proper combination, teach all of the claim limitations of claim 38 and, therefore, withdrawal of the 35 U.S.C. § 103(a) rejection of claim 38 is respectfully solicited.

Claim 39 is allowable, among other reasons, for depending from allowable base claim 38.

For the reasons above, withdrawal of the 35 U.S.C. § 103(a) rejections of claims 8-10, 26-28, and 35-39 is respectfully requested.

Entry of Amendments

The amendments to claims 1, 2, 25, 26, 29, 31, and 35 should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add new matter to the application.

CONCLUSION

It is respectfully submitted that each of claims 1-14 and 25-39 is allowable. An early notice of the allowability of each of these claims is respectfully solicited, as is an indication that the above-referenced application has been passed for issuance. If any issues preventing allowance of the above-referenced application remain which might be resolved by way of a telephone conference, the Office is kindly invited to contact the undersigned attorney.

Respectfully submitted,



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